DEPARTMENT OF THE AIR FORCE
Headquarters Air Force Technical Applications Center
Patrick AFB, FL 32925

CENTER REGULATION 27-3

13 May 1982

Programming

HQ AFTAC VELA SEISMOLOGICAL CENTER ORDERS

This regulation establishes the Air Force Technical Applications Center (AFTAC) VELA Seismological Center Order (VSC Order) system and procedures for order preparation and use.

1. General. A VSC Order is issued to provide program management direction and authority for the conduct of VELA Seismological Center programs. Mission tasking requirements for the conduct of VSC programs will be validated by requirement memoranda or Program Implementation Directives (PIDs). Resource allocations for the current year for RDT&E and O&M shall be IAW the appropriate execution plan for the fiscal year. Out-year projections will be IAW the approved program Submission or Operations Operating Budget (OOB). Funds and tasking requirements for DARPA sponsored projects shall be authorized by DARPA Order. VSC Orders are issued for tasks/projects under Air Force funding categories as well as for work to be performed in-house by VSC personnel.

2. Authority. The Chief, Geophysics Division (TG) will develop, publish, and issue VSC Orders. Directorates requiring VSC work will address their requirement by letter to TG. The Chief, Geophysics Division will review for approval all requests for VSC Orders prior to issuance. The originating office will be the OPR for technical matters contained in approved VSC Orders.

3. Procedures. Establishing a VSC Order is an interactive process. The originating office identifies the requirement for a VSC Order to TG by letter. TG reviews and transmits the request to VSC. VSC identifies the resources, schedule, and objectives and coordinates technical details with the requesting office. VSC replies to the order request with a proposed plan. The requesting office reviews the plan and coordinates technical details with VSC and obtains other HQ staff coordination as required. After concurrence by the requesting office, the VSC plan is transmitted to TG for final review and approval. The steps and information to implement this procedure are described below.

a. The Originating Office:

(1) Initiates a request for a VSC Order to TG using the letter format shown in the attachment. If the proposed VSC Order will direct the design, procurement, fabrication, logistics support, disposition or movement of supplies or equipment, the originating office will coordinate their initial letter request with HQ/LG. If the proposed VSC Order involves the acquisition of computer equipment, or the development/modification of software, the originating office will coordinate their initial letter request with HQ/AD.

(2) After receipt of the draft plan from VSC thru TG, the originating office:

(a) Reviews technical details with VSC to obtain a fully coordinated approach necessary to accomplish objectives.

(b) Upon receipt of the proposed VSC plan from TG, if either condition described in paragraph 3a(1) above exists, the originating office will obtain final coordination from the appropriate HQ staff office.

(c) After final technical review and receipt of final staff coordination, the originating office will transmit the draft VSC plan to TG for formal VSC order approval and preparation.

b. VELA Seismological Center:

(1) Upon receipt of the initial VSC Order request from TG, VSC will:

(a) Identify resource requirements.

(b) Propose a plan of actions to meet the objective including a schedule. This plan may represent an alternative course of action.

(c) Provide their interpretation of the objective and final product or capability to be achieved to assure clear understanding of tasking.

Supersedes CENR 27-3, 14 June 1980. (See signature page for summary of changes.)
No of Printed Pages: 3
OPR: TG (Mr. B. G. Brooks)
Approved by: Dr. Frank F. Pilotte
Editor: SSgt G. J. Lutz
Distribution: F

d) Coordinate with requesting office on technical issues.

e) Provide response within 10 working days.

(2) Upon receipt of an approved VSC Order, VSC will:

a) Implement assigned tasks.

b) Provide TG with status of projects during quarterly reviews.

c) Advise TG upon completion of the project.

d) Request TG to verify validity of VSC Orders annually.

c. Geophysics Division:

(1) TG transmit requests for VSC Orders to VSC for review and response and monitors suspense cycle.

(2) TG transmits VSC reply to requesting office for technical review, concurrence, and any required HQ coordination.

(3) TG combines the originating office's request and VSC's reply into a VSC Order. Upon approval, TG will assign the identifying numbers and maintain a listing of current VSC Orders. Orders will be numbered consecutively within each calendar year. Each number will be prefixed with a two-digit number indicating the calendar year of issue.

(4) TG verifies resource allocation and priorities.

(5) TG provides VSC procurement support for VSC Order projects.

(6) TG will distribute approved VSC Orders. VSC Orders will be addressed to the Commander, VSC. Copies of each VSC Order will be provided to all involved HQ offices.

(7) TG will be the office of record for all VSC Orders.

d. HQ/AD: If the VSC Order involves the acquisition of computer equipment or the development/ modification of software, HQ/AD will coordinate with the VSC Commander and VSC project officer to insure all necessary ADP funds and approvals are obtained in a timely manner for approved VSC Orders.

e. General:

(1) Amendments will be used to update or modify an existing VSC Order to implement significant changes. Minor technical changes can be coordinated via message or letter between the HQ OPR and VSC, with a copy to TG and involved HQ staff offices, i.e., LG, AD.

(2) VSC Orders will be revalidated annually and reaccomplished when directed by a major program change. Revalidation will be documented in a letter from the originating office to TG certifying that the VSC Order has been reviewed and that the requirements are still current.

(3) Documentation Disposition Instructions. VSC Orders will be disposed of in accordance with AFM 12-50, Table 271, Rules 12 and 12.1.

OFFICIAL

ROBERT A. MEISENHEIMER, Colonel, USAF
Commander

PAUL D. BARTON, SMSgt, USAF
Director of Administration

1 Attachment
Sample Letter Format

SUMMARY OF CHANGES
Replaces TD office symbols with TG office symbols since TG is now responsible for VSC Orders.

DEPARTMENT OF THE AIR FORCE

[illegible]

[illegible] Requesting Office Date)

[illegible] Request for VSC Order

TO

1. Briefly describe the AEDS Mission requirement and the capability deficiency which exists for which the VSC Order is being initiated to correct.

2. Briefly describe the desired objective (i.e., final capability or hardware/software/data product desired).

3. Summarize briefly what should be done to achieve the objective. Briefly outline how and who does what for whom.

4. Identify the required completion date and suggest a schedule to accomplish tasks summarized in para 3 above.

These variables fall into two categories -- programmatic and designer's choice. The programmatic variables (e.g., production quantity, year of economics, MTBF, deployment factors, etc.) must be furnished by the Government to permit a credible comparative assessment of design alternatives. Other variables (e.g., design complexity, tooling requirements, etc.) are design driven and are the contractor's choice to the extent to where they can be justified.

This justification will involve both technical and cost considerations. The technical consideration should be consistent with the proposed design and the nonrecurring cost estimates should be consistent with the proposed cost.

c. LCC modeling is a credible design tool. The assessment of a design, in the context of LCC variables, can provide a sensitivity to unnecessary complexity which optimizes system design when convolved with reliability (including parts selection) and performance considerations.

The purpose of this manual is to provide instructions and requirements for estimating the G/AIT's life cycle cost through the use of PRICE (H and S) and ONSCOSTS cost-modeling methods.

These three models provide the means for determining life cycle cost from the acquisition phase (nonrecurring and recurring) through the operation and support phase of the Ground/Airborne IGS Terminal procurement.

2.0 OVERVIEW.

a. PRICE Hardware Model (PRICE H) was developed by RCA in early 1960 and used rigorously in the late 1960's and early 1970's to estimate avionics and space systems' costs. Interest grew outside of RCA to the extent that arrangements were made to lease this model from RCA. Commercial operations began in 1975 with nearly 200 new trainees each year.

PRICE H is a traditional method used to derive cost estimates. Although PRICE H is based upon representative traditional process of cost estimating (material lists, man-hour of labor, etc.) they are neither inputs nor outputs. Representative cost factors are reduced by experienced users and then inserted into the operational model for final evaluation.

PRICE H is applicable to all aspects of hardware acquisitions whether it be development, production, purchase, government furnished, or modification of existing equipment. It estimates the cost associated with design, drafting, project management, documentation, support engineering, special tool and test equipment, plus overhead. Cost for integrating subassemblies and testing system requirements are estimated by PRICE H. Costs for field test, site construction and software are also estimated by the PRICE H hardware model.

(1) Methodology - The method used to model the estimating procedure is parametric. When the model calculates a manufacturing cost, it does not use parts list and labor resource charts but a parametric representation of parts and labor costs.

PRICE H contains thousands of mathematical equations relating input variables to cost. Each specific set of input parameters defines the hardware cost model. The resultant cost is determined from mathematical equations. PRICE H does not perform the function of a look-up table but relies upon its internal mathematical equations to determine cost.

PRICE H was designed to estimate costs with a minimal amount of hardware information. In the conceptual stage of development this feature makes it a legitimate tool for cost estimating.

(2) Mechanics - From a mechanics standpoint, PRICE H is a conversation between a computer and a user. The parametric data used to determine hardware cost is formulated and stored in computer data files. After the user stores the data, he controls the output format, makes sensitivity analyses, contributes to integration and test efforts and uses estimates to arrive at a hardware cost.

Since PRICE H must be adaptive to hardware configuration, the user must validate the data for hardware calibration. Although the input is a tedious and arduous task, its performance saves time when considering the overall process.

b. PRICE Software Model (PRICE S) is an outgrowth of RCA's empirical modeling methods for solving computer software costs and schedules. This model is designed to cover all types of software development, including business systems, communication, command and control, avionics and space systems. Its universality is achieved by parametric techniques similar to the hardware cost estimating method. PRICE S provides sensitivity and schedule analyses, monthly cost and progress summaries, risk analysis and project tracking.

(1) Mechanics. The parametric procedures employed by this model provide several major advantages. They permit rapid top-down evaluations, independent of traditional bottoms-up estimates. They enable rapid updates in light of increased knowledge and changing requirements. They permit extrapolation beyond the range of personel experience. They provide a framework for organizing and categorizing relevant experience for future projects. They provide a language for negotiation which identifies assumptions for proposed development costs and schedules.

(2) Modes of Operation. PRICE S provides four modes of operation which are available to the user -- normal operation, resource calibration, application calibration and design-to-cost. Since PRICE S is an interactive model, the user has to access time-sharing computer via telephone lines from standard office terminals.